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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,681	06/03/2005	Edmund W. Arriola	40146/10001:2	8556
3528	7590	06/15/2007		
STOEL RIVES LLP 900 SW FIFTH AVENUE SUITE 2600 PORTLAND, OR 97204-1268			EXAMINER PRITCHETT, JOSHUA L	
			ART UNIT 2872	PAPER NUMBER
			MAIL DATE 06/15/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No.	Applicant(s)	
	10/537,681	ARRIOLA, EDMUND W.	
	Examiner	Art Unit	
	Joshua L. Pritchett	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 9-13, 17 and 18 is/are rejected.
- 7) ☒ Claim(s) 6-9 and 14-16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/05</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Shafer (US 6,483,638).

Regarding claim 1, Shafer discloses a lens assembly formed with refractive components (129) that are substantially free from image-distorting intrinsic birefringence effects of a kind exhibited by calcium fluoride operating at 157 nm (col. 8 lines 30-35) and cooperate to provide a high numerical aperture lens assembly operating with a specific deep ultraviolet wavelength (col. 4 lines 1-3) of light carrying a subject image comprising a first (128) and a second (139) lens groups including optical components from of high index of refraction lens element substrate material and cooperating to form a magnified aberration-corrected image at an image plane (140) the first lens group including an aberration correction and compensation lens element positioned to receive nonconverging light rays of a specific wavelength (Fig. 4) the light rays carrying a

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subject image (col. 5 lines 50-60) and the second lens group including a converging lens element positioned to receive light rays propagating from the first lens group and converge the light rays carrying the subject image to form the magnified aberration-corrected image at the image plane (Fig. 4; col. 5 lines 40-50).

Regarding claim 18, Shafer discloses a tube lens (129) positioned to receive the subject image carrying light before it is incident on the first and second lens group to provide a quasi-collimated beam space between the tube lens and the first lens group (Fig. 4).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 5, 9-13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shafer (US 6,483,638).

Regarding claim 4, Shafer teaches the use of deep ultraviolet light (col. 1 line 29). The wavelength of 157 nm is an extremely well known operating wavelength for deep ultraviolet light. Official Notice is taken. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the operating wavelength of Shafer be 157 nm as is well

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known in the art for the purpose of achieving predictable behavior from the optical elements by operating at a common wavelength.

Regarding claim 5, Shafer teaches the lens move along the optical axis to adjust the magnification (Fig. 5). It is extremely well known in the art that analog adjustment of lenses can result in fractional magnification. Official Notice is taken. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the Shafer invention provide fractional magnification as is known in the art for the purpose of achieving different views of the subject image.

Regarding claims 9 and 17, Shafer teaches first and second lens groups are formed of refractive elements (Fig. 4) and the final lens element having a concave exit surface to provide for the lens assembly a numerical aperture of about 0.90 (col. 5 line 48) and a wavelength in the deep ultraviolet (col. 1 line 29). The wavelength of 157 nm is an extremely well known operating wavelength for deep ultraviolet light. Official Notice is taken. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the operating wavelength of Shafer be 157 nm as is well known in the art for the purpose of achieving predictable behavior from the optical elements by operating at a common wavelength.

Regarding claims 10 and 13, Shafer teaches the first and second lens elements are arranged to form a catadioptric design (Figs. 3 and 4). Shafer teaches the use of a catadioptric system to focus an image (Fig. 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a catadioptric system as part of the first lens group (Fig. 4) and the second lens group (Fig. 3) for the purpose of correcting for aberrations and controlling the propagation of light through the system.

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Regarding claim 11, Shafer teaches an aperture stop (131) between the first and second lens groups (Fig. 4).

Regarding claim 12, Shafer teaches the first lens group includes a perforated meniscus lens element having an entrance mirror surface (Fig. 4; col. 5 lines 60-65).

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shafer (US 6,483,638) in view of Hagiwara (US 2001/0048083).

Shafer teaches the invention as claimed but lacks reference to fused silica. Hagiwara teaches the use of a fluorinated fused silica optical material (para. 0118). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the Shafer invention include the material of Hagiwara for the purpose of using known materials to achieve predictable results.

Allowable Subject Matter

Claims 6-8 and 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 6 and 14, the prior art of record fails to teach or suggest a plano exit surface with a liquid interface film resident at the plano exit surface.

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The remaining claims depend from claims 6 and 14 and are allowable for the same reasons.

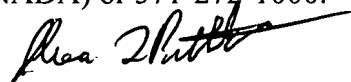
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua L. Pritchett whose telephone number is 571-272-2318.

The examiner can normally be reached on Monday - Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Joshua L Pritchett
Examiner
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